

## POLARIZATION MODE DISPERSION GENERATOR

Abstract

Methods and apparatus for generating polarization mode dispersion ("PMD"), especially for use in PMD emulators and compensators, are provided. The apparatus  
5 can include a lens assembly, an optical beam turning assembly, and a variable PMD generating assembly located between the lens assembly and the optical turning assembly. The variable PMD generating assembly can include a fixed DGD stage and a variable electro-optically controlled  
10 retardation stage. The method involves directing the beam through the variable PMD generating assembly at least twice by folding the beam with the turning assembly. Various phase and temperature compensation techniques are also provided.